Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Previously Presented)   A method for coding digital audio data, comprising:

a transform encoding process implemented on a fixed point digital signal processor having plural levels of computation precision, wherein the transform encoding process includes:

a first computation stage involving arithmetic operations in transforming the digital audio data into intermediate audio data using a first level of computational precision; and

a second computation stage involving arithmetic operations in transforming the intermediate audio data into coded audio data using a second level of computational precision different than the first level of computational precision, wherein the transform encoding process is in accordance with AC-3 Digital Audio Compression Standard.

2.   (Original) A method as claimed in claim 1, wherein the digital signal processor comprises a 16-bit digital signal processor which is capable of single (16-bit) precision computations and double (32-bit) computations.

3.   (Previously Presented) A method as claimed in claim 1 or 2, wherein the first and second computation stages are of a plurality of computation stages that include transient detection, windowing, frequency transformation, coupling strategy determination and coupling channel computation, and rematrixing determination and computation.

4.   (Original) A method as claimed in claim 1 or 2, wherein the transform encoding process includes a transient detection process for detecting transients in the audio data, and wherein the transient detection process is carried out with single precision computations.

5.   (Original) A method as claimed in claim 1 or 2, wherein the transform encoding process includes a windowing function which is carried out with single precision audio data and double precision coefficients.

6.   (Original) A method as claimed in claim 1 or 2, wherein the transform encoding process includes a windowing function which is carried out with double precision audio data and single precision coefficients.

7.   (Original) A method as claimed in claim 1 or 2, wherein the transform encoding process includes a frequency transformation process which is performed with double precision data and single precision coefficients.

8.   (Original) A method as claimed in claim 1 or 2, wherein the transform encoding process includes determination of a coupling strategy and/or a phase strategy, and wherein the determination is performed with single precision data.

9.   (Original) A method as claimed in claim 8, wherein the determination of coupling and/or phase strategy includes pre-processing by use of a block exponent method, wherein double precision frequency coefficients are shifted to eliminate leading zeros and truncated to single precision.

10.   (Previously Presented) A method as claimed in claim 8, wherein the transform encoding process includes the formation of a coupling channel which is performed with double precision data.

11.   (Original) A method as claimed in claim 1 or 2, wherein the transform encoding process includes a rematrixing determination which is performed with single precision data, and a rematrix coding process which is performed with double precision data.

12.   (Previously Presented) A digital audio transform encoder for coding a digital audio data block into compressed audio data, comprising:

a fixed point digital signal processor having multiple levels of computation precision; and

transform encoding process code stored in firmware or software for controlling the digital signal processor, wherein the transform encoding process code includes a plurality of computation blocks involving arithmetic operations in transforming the digital audio data block into compressed audio data, and wherein different ones of the computation blocks are performed on the digital audio data block by the digital signal processor using different levels of computational precision, wherein the transform encoding process code is in accordance with AC-3 Digital Audio Compression Standard.

13.   (Original) An audio transform encoder as claimed in claim 12, wherein the digital signal processor comprises a 16-bit digital signal processor which is capable of single (16-bit) precision computations and double (32-bit) computations.

14.   (Original) An audio transform encoder as claimed in claim 12 or 13, wherein the plurality of computation blocks include transient detection, windowing, frequency transformation, coupling strategy determination and coupling channel computation, and rematrixing determination and computation.

15.   (Previously Presented) An audio transform encoder as claimed in claim 12 or 13, wherein the transform encoding process code includes a transient detection block for detecting transients in the audio data, and wherein the transient detection block utilizes single precision computations.

16.   (Previously Presented) An audio transform encoder as claimed in claim 12 or 13, wherein the transform encoding process code include a windowing block which utilizes single precision audio data and double precision coefficients.

17.   (Previously Presented)   An audio transform encoder as claimed in claim 12 or 13, wherein the encoding process code includes a windowing block which utilizes double precision audio data and single precision coefficients.

18.   (Previously Presented)   An audio transform encoder as claimed in claim 12 or 13, wherein the transform encoding process code includes a frequency transformation block which utilizes double precision data and single precision coefficients.

19.   (Previously Presented)   An audio transform encoder as claimed in claim 12 or 13, wherein the transform encoding process code includes a block for determination of a coupling strategy and/or a phase strategy, and wherein the determination utilizes single precision data.

20.   (Previously Presented)   An audio transform encoder as claimed in claim 19, wherein the block for determination of coupling and/or phase strategy utilizes pre-processing by use of a block exponent method, wherein double precision frequency coefficients are shifted to eliminate leading zeros and truncated to single precision.

21.   (Previously Presented)   An audio transform encoder as claimed in claim 19, wherein the transform encoding process code includes a block for the formation of a coupling channel which utilizes double precision data.

22.   (Previously Presented)   An audio transform encoder as claimed in claim 12 or 13, wherein the transform encoding process code includes a rematrixing determination block which utilizes single precision data, and a rematrix coding block which utilizes double precision data.

23.   (Previously Presented)   A digital audio transform encoder for coding digital audio data into compressed audio data in accordance with an AC-3 Digital Audio Compression Standard, comprising:

a first computation block structured to perform arithmetic operations in transforming the digital audio data into the compressed audio data using a first level of computational precision; and

a second computation block coupled to the first computation block and structured to perform arithmetic operations in transforming the digital audio data into the compressed audio data in concert with the first computation block, the second computation block using a second level of computational precision that is different from the first level of computational precision.

24.   (Previously Presented)   The audio transform encoder of claim 23 wherein the first and second computation blocks are implemented as first and second blocks of computer instructions that are executed by a digital signal processor.

25.   (Previously Presented)   The audio transform encoder of claim 23, wherein the first computation block includes a transient detection block for detecting transients in the audio data, and wherein the transient detection block utilizes single precision computations.

26.   (Previously Presented)   The audio transform encoder of claim 25, wherein the second computation block includes a windowing block that utilizes single precision audio data and double precision coefficients.

27.   (New) The audio transform encoder of claim 23 wherein first level of computational precision is performed using data elements of a first number of bits and the second level of computational precision is performed using data elements of a second number of bits.

28.   (New) A method as claimed in claim 1 wherein first level of computational precision is performed using data elements of a first number of bits and the

second level of computational precision is performed using data elements of a second number of bits.

29.   (New) An audio transform encoder as claimed in claim 12 wherein a first one of the plurality of computation blocks employs a first level of computational precision using data elements of a first number of bits and a second one of the plurality of computation blocks employs a second level of computational precision using data elements of a second number of bits.